## AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims**

72. (Previously Presented): A method, practiced by a computer system, of well planning in a well planning system in response to input data including wellbore geometry and wellbore trajectory requirements, the computer system including a processor that is responsive to the input data, a recorder or display device, and a memory, the memory storing a software, the wellbore including a plurality of hole sections, comprising:

executing, by the processor, the software stored in the memory of the computer system in response to said input data and, in response to the executing step, generating, by the processor, a summary of a drillstring in each hole section of the wellbore, the summary of said drillstring providing a drillstring design for the wellbore geometry in each hole section of the wellbore; and

recording or displaying, by the recorder or display device, at least a portion of said summary of said drillstring in said each hole section of said wellbore on an output display of said recorder or display device, wherein said output display of said recorder or display device includes,

said plurality of hole sections arranged along a corresponding plurality of rows of said output display, and

for each hole section in each row of said output display, said at least a portion of said summary of said drillstring arranged along a plurality of columns associated with said each hole section in said each row of said output display.

73. (Previously Presented): The method of claim 72, wherein the drillstring includes a plurality of components, the summary of the drillstring in each hole section of the

wellbore including an outer diameter, a weight, and a length of one or more of said components of said drillstring in each hole section of said wellbore.

74. (Previously Presented): The method of claim 73, wherein the plurality of components of the drillstring include a first drill collar (DC1) of said drillstring, a second drill collar (DC2) of said drillstring, a heavy weight (HW) of said drillstring, and a drill pipe (DP) of said drillstring.

75. (Previously Presented): The method of claim 74, wherein step of generating, by the processor, a summary of a drillstring in each hole section of the wellbore comprises:

determining an outer diameter of said DC1, said DC2, said HW, and said DP of said drillstring;

determining a weight of said DC1, said DC2, and said HW of said drillstring;

determining a length of said DC1, said DC2, said HW, and said DP of said drillstring; and

determining a tensile risk of said drillstring.

76. (Currently Amended): The method of claim 75, wherein the step of determining an outer diameter of said DC1, said DC2, said HW, and said DP of said drillstring comprises:

determining an outer diameter of said DC1 ($DC1_{OD}$) from a table using a hole size;

determining an outer diameter of said DC2 ($DC2_{OD}$) by using a stiffness ratio (SR), where:

$SR = Z_{BIG}/Z_{SMALL}$, and where

$Z = ([[\theta]]\ \underline{\Pi}/32)\ ((OD^4 - ID^4) / OD)$,

$SR < 3.5$, and

$DC2_{OD} <= DC1_{OD}$ & $DC2_{OD} >= DP_{OD}$, and

~~where 'θ' is used for the wellbore inclination and OD is an outer diameter and ID is an inner diameter;~~

determining an outer diameter of said HW ($HW_{OD}$) by using said stiffness ratio (SR), where,

$SR = Z_{BIG}/Z_{SMALL}$,

$Z = ([[\theta]]\ \underline{\Pi}/32)\ ((OD^4 - ID^4) / OD)$,

$SR < 3.5$, and

$HW_{OD} <= DC2_{OD}$ & $HW_{OD} >= DP_{OD}$, and where

$DP_{OD} <= HW_{OD}$; and

determining an outer diameter of said DP ($DP_{OD}$) by using a stiffness ratio (SR), where an outer diameter of said DP ($DP_{OD}$) is obtained from a table using the hole size and $DP_{OD} <= DC1_{OD}$.

77. (Previously Presented): The method of claim 75 wherein the step of determining a weight of said DC1, said DC2, and said HW of said drillstring comprises:

determining a maximum weight-on-bit (WOB) used in the hole section; and

determining a weight of said DC1, said DC2, and said HW, where 'θ' is used for a wellbore inclination and 'DF' is a design factor, and where,

$$HW_w = \frac{WOB(DF)}{K_b * COS(\theta)}\left(\frac{5+\theta}{100}\right),$$

$$DC1_w + DC2_w = \frac{WOB(DF)}{K_b * COS(\theta)}\left(\frac{95-\theta}{100}\right), \text{ or}$$

$$DC1_w + DC2_w = \frac{WOB(DF)}{K_b * COS(\theta)} - HW_w,$$

$DC1_W = DC1_L * DC1_{WFT}$, and

$DC2_W = (DC1 + DC2) - DC1$.

78. (Previously Presented): The method of claim 75, wherein the step of determining a length of said DC1, said DC2, said HW, and said DP of said drillstring comprises:

determining a length of said DC1, said DC2, said HW, and said DP, where,

$DC1 - DC1_L = 90$ Feet = 1 Stand = 3 Joint,

$DC2 - DC2_L = DC2_W / DC2_{WFT}$,
$HW - HW_L = HW_W / HW_{WFT}$, and
$DP - DP_L = (\text{Bit Section Length}) - (DC1_L - DC2_L - HW_L)$.

79. (Previously Presented): The method of claim 75, wherein said at least a portion of said summary of said drillstring, which corresponds to said each hole section in said each row of said output display, comprises:
an outer diameter (OD) of the first drill collar (DC1) of said drillstring.

80. (Previously Presented): The method of claim 79, wherein said at least a portion of said summary of said drillstring, which corresponds to said each hole section in said each row of said output display, further comprises:
an outer diameter (OD) of the second drill collar (DC2) of said drillstring.

81. (Previously Presented): The method of claim 80, wherein said at least a portion of said summary of said drillstring, which corresponds to said each hole section in said each row of said output display, further comprises:
an outer diameter (OD) of a heavy weight (HW) of said drillstring.

82. (Previously Presented): The method of claim 81, wherein said at least a portion of said summary of said drillstring, which corresponds to said each hole section in said each row of said output display, further comprises:
an outer diameter (OD) of a drill pipe (DP) of said drillstring.

83. (Previously Presented): The method of claim 82, wherein said at least a portion of said summary of said drillstring, which corresponds to said each hole section in said each row of said output display, further comprises:
a maximum weight of a weight-on-bit (WOB) in each hole section of said drill string.

84. (Previously Presented): The method of claim 83, wherein said at least a portion of said summary of said drillstring, which corresponds to said each hole section in said each row of said output display, further comprises:
a weight of a first drill collar (DC1) of said drillstring.

85. (Previously Presented): The method of claim 84, wherein said at least a portion of said summary of said drillstring, which corresponds to said each hole section in said each row of said output display, further comprises:
a weight of a second drill collar (DC2) of said drillstring.

86. (Previously Presented): The method of claim 85, wherein said at least a portion of said summary of said drillstring, which corresponds to said each hole section in said each row of said output display, further comprises:
a weight of a heavy weight (HW) of said drillstring.

87. (Previously Presented): The method of claim 86, wherein said at least a portion of said summary of said drillstring, which corresponds to said each hole section in said each row of said output display, further comprises:
a length of a first drill collar (DC1) of said drillstring.

88. (Previously Presented): The method of claim 87, wherein said at least a portion of said summary of said drillstring, which corresponds to said each hole section in said each row of said output display, further comprises:
a length of a second drill collar (DC2) of said drillstring.

89. (Previously Presented): The method of claim 88, wherein said at least a portion of said summary of said drillstring, which corresponds to said each hole section in said each row of said output display, further comprises:
a length of a heavy weight (HW) of said drillstring.

90. (Previously Presented): The method of claim 89, wherein said at least a portion of said summary of said drillstring, which corresponds to said each hole section in said each row of said output display, further comprises:
a length of a drill pipe (DP) of said drillstring.

91. (Previously Presented): The method of claim 90, wherein said at least a portion of said summary of said drillstring, which corresponds to said each hole section in said each row of said output display, further comprises:
a tensile risk of said drillstring.

92. (Previously Presented): The method of claim 91, wherein said at least a portion of said summary of said drillstring, which corresponds to said each hole section in said each row of said output display, further comprises:
a cost figure associated with said drillstring.

93. (Previously Presented): The method of claim 92, wherein said at least a portion of said summary of said drillstring, which corresponds to said each hole section in said each row of said output display, further comprises:
a kick tolerance associated with said drillstring.

94. (Previously Presented): A program storage device readable by a processor tangibly embodying a set of instructions executable by the processor to perform method steps, which are practiced by a computer system, of well planning in a well planning system in response to input data including wellbore geometry and wellbore trajectory requirements, the computer system including the processor that is responsive to the input data, a recorder or display device, and the program storage device which stores the instructions, the wellbore including a plurality of hole sections, the method steps comprising:

executing, by the processor, the instructions stored in the program storage device of the computer system in response to said input data and, in response to the executing step, generating, by the processor, a summary of a drillstring in each hole section of the wellbore, the summary of said drillstring providing a drillstring design for the wellbore geometry in each hole section of the wellbore; and

recording or displaying, by the recorder or display device, at least a portion of said summary of said drillstring in said each hole section of said wellbore on an output display of said recorder or display device, wherein said output display of said recorder or display device includes,

said plurality of hole sections arranged along a corresponding plurality of rows of said output display, and

for each hole section in each row of said output display, said at least a portion of said summary of said drillstring arranged along a plurality of columns associated with said each hole section in said each row of said output display.

95. (Previously Presented): The program storage device of claim 94, wherein the drillstring includes a plurality of components, the summary of the drillstring in each hole section of the wellbore including an outer diameter, a weight, and a length of one or more of said components of said drillstring in each hole section of said wellbore.

96. (Previously Presented): The program storage device of claim 95, wherein the plurality of components of the drillstring include a first drill collar (DC1) of said drillstring, a second drill collar (DC2) of said drillstring, a heavy weight (HW) of said drillstring, and a drill pipe (DP) of said drillstring.

97. (Previously Presented): The program storage device of claim 96, wherein step of generating, by the processor, a summary of a drillstring in each hole section of the wellbore comprises:

determining an outer diameter of said DC1, said DC2, said HW, and said DP of said drillstring;

determining a weight of said DC1, said DC2, and said HW of said drillstring;

determining a length of said DC1, said DC2, said HW, and said DP of said drillstring; and

determining a tensile risk of said drillstring.

98. (Currently Amended): The program storage device of claim 97, wherein the step of determining an outer diameter of said DC1, said DC2, said HW, and said DP of said drillstring comprises:

determining an outer diameter of said DC1 ($DC1_{OD}$) from a table using a hole size;

determining an outer diameter of said DC2 ($DC2_{OD}$) by using a stiffness ratio (SR), where:

$SR = Z_{BIG}/Z_{SMALL}$, and where

$Z = ([[\theta]]\ \underline{\Pi}\ /32)\ ((OD^4 - ID^4) / OD)$,

$SR < 3.5$, and

$DC2_{OD} <= DC1_{OD}\ \&\ DC2_{OD} >= DP_{OD}$, and

~~where 'θ' is used for the wellbore inclination and OD is an outer diameter and ID is an inner diameter;~~

determining an outer diameter of said HW ($HW_{OD}$) by using said stiffness ratio (SR), where

$SR = Z_{BIG}/Z_{SMALL}$,

$Z = ([[\theta]]\ \underline{\Pi}\ /32)\ ((OD^4 - ID^4) / OD)$,

$SR < 3.5$, and

$HW_{OD} <= DC2_{OD}\ \&\ HW_{OD} >= DP_{OD}$, and where

$DP_{OD} <= HW_{OD}$; and

determining an outer diameter of said DP ($DP_{OD}$) by using a stiffness ratio (SR), where an outer diameter of said DP ($DP_{OD}$) is obtained from a table using the hole size and $DP_{OD} <= DC1_{OD}$.

99. (Previously Presented): The program storage device of claim 97 wherein the step of determining a weight of said DC1, said DC2, and said HW of said drillstring comprises:
determining a maximum weight-on-bit (WOB) used in the hole section; and
determining a weight of said DC1, said DC2, and said HW, where 'θ' is used for a wellbore inclination and 'DF' is a design factor, and where,

$$HW_w = \frac{WOB(DF)}{K_b * COS(\theta)}\left(\frac{5+\theta}{100}\right),$$

$$DC1_w + DC2_w = \frac{WOB(DF)}{K_b * COS(\theta)}\left(\frac{95-\theta}{100}\right), \text{ or}$$

$$DC1_w + DC2_w = \frac{WOB(DF)}{K_b * COS(\theta)} - HW_w,$$

$DC1_W = DC1_L * DC1_{WFT}$, and

$DC2_W = (DC1 + DC2) - DC1$.

100. (Previously Presented): The program storage device of claim 97, wherein the step of determining a length of said DC1, said DC2, said HW, and said DP of said drillstring comprises:
determining a length of said DC1, said DC2, said HW, and said DP, where,
DC1 - $DC1_L$ = 90 Feet = 1 Stand = 3 Joint,
DC2 - $DC2_L = DC2_W / DC2_{WFT}$,
HW - $HW_L = HW_W / HW_{WFT}$, and
DP - $DP_L$ = (Bit Section Length) – ($DC1_L$ - $DC2_L$ - $HW_L$).

101. (Previously Presented): The program storage device of claim 97, wherein said at least a portion of said summary of said drillstring, which corresponds to said each hole section in said each row of said output display, comprises:
an outer diameter (OD) of the first drill collar (DC1) of said drillstring.

102. (Previously Presented): The program storage device of claim 101, wherein said at least a portion of said summary of said drillstring, which corresponds to said each hole section in said each row of said output display, further comprises:
an outer diameter (OD) of the second drill collar (DC2) of said drillstring.

103. (Previously Presented): The program storage device of claim 102, wherein said at least a portion of said summary of said drillstring, which corresponds to said each hole section in said each row of said output display, further comprises:
an outer diameter (OD) of a heavy weight (HW) of said drillstring.

104. (Previously Presented): The program storage device of claim 103, wherein said at least a portion of said summary of said drillstring, which corresponds to said each hole section in said each row of said output display, further comprises:
an outer diameter (OD) of a drill pipe (DP) of said drillstring.

105. (Previously Presented): The program storage device of claim 104, wherein said at least a portion of said summary of said drillstring, which corresponds to said each hole section in said each row of said output display, further comprises:
a maximum weight of a weight-on-bit (WOB) in each hole section of said drill string.

106. (Previously Presented): The program storage device of claim 105, wherein said at least a portion of said summary of said drillstring, which corresponds to said each hole section in said each row of said output display, further comprises:
a weight of a first drill collar (DC1) of said drillstring.

107. (Previously Presented): The program storage device of claim 106, wherein said at least a portion of said summary of said drillstring, which corresponds to said each hole section in said each row of said output display, further comprises:
a weight of a second drill collar (DC2) of said drillstring.

108. (Previously Presented): The program storage device of claim 107, wherein said at least a portion of said summary of said drillstring, which corresponds to said each hole section in said each row of said output display, further comprises:
a weight of a heavy weight (HW) of said drillstring.

109. (Previously Presented): The program storage device of claim 108, wherein said at least a portion of said summary of said drillstring, which corresponds to said each hole section in said each row of said output display, further comprises:
a length of a first drill collar (DC1) of said drillstring.

110. (Previously Presented): The program storage device of claim 109, wherein said at least a portion of said summary of said drillstring, which corresponds to said each hole section in said each row of said output display, further comprises:
a length of a second drill collar (DC2) of said drillstring.

111. (Previously Presented): The program storage device of claim 110, wherein said at least a portion of said summary of said drillstring, which corresponds to said each hole section in said each row of said output display, further comprises:
a length of a heavy weight (HW) of said drillstring.

112. (Previously Presented): The program storage device of claim 111, wherein said at least a portion of said summary of said drillstring, which corresponds to said each hole section in said each row of said output display, further comprises:
a length of a drill pipe (DP) of said drillstring.

113. (Previously Presented): The program storage device of claim 112, wherein said at least a portion of said summary of said drillstring, which corresponds to said each hole section in said each row of said output display, further comprises:

a tensile risk of said drillstring.

114. (Previously Presented): The program storage device of claim 113, wherein said at least a portion of said summary of said drillstring, which corresponds to said each hole section in said each row of said output display, further comprises:
a cost figure associated with said drillstring.

115. (Previously Presented): The program storage device of claim 114, wherein said at least a portion of said summary of said drillstring, which corresponds to said each hole section in said each row of said output display, further comprises:
a kick tolerance associated with said drillstring.

116. (Previously Presented): A computer program stored in a processor readable medium and adapted to be executed by a processor of a computer system, said computer program, when executed by the processor, conducting a process of well planning in a well planning system in response to input data including wellbore geometry and wellbore trajectory requirements, the computer system including the processor that is responsive to the input data, a recorder or display device, and the processor readable medium which stores the computer program, the wellbore including a plurality of hole sections, said process comprising:

executing, by the processor, the computer program stored in the processor readable medium of the computer system in response to said input data and, in response to the executing step, generating, by the processor, a summary of a drillstring in each hole section of the wellbore, the summary of said drillstring providing a drillstring design for the wellbore geometry in each hole section of the wellbore; and

recording or displaying, by the recorder or display device, at least a portion of said summary of said drillstring in said each hole section of said wellbore on an output display of said recorder or display device, wherein said output display of said recorder or display device includes,

said plurality of hole sections arranged along a corresponding plurality of rows of said output display, and

for each hole section in each row of said output display, said at least a portion of said summary of said drillstring arranged along a plurality of columns associated with said each hole section in said each row of said output display.

117. (Previously Presented): The computer program of claim 116, wherein the drillstring includes a plurality of components, the summary of the drillstring in each hole section of the wellbore including an outer diameter, a weight, and a length of one or more of said components of said drillstring in each hole section of said wellbore.

118. (Previously Presented): The computer program of claim 117, wherein the plurality of components of the drillstring include a first drill collar (DC1) of said drillstring, a second drill collar (DC2) of said drillstring, a heavy weight (HW) of said drillstring, and a drill pipe (DP) of said drillstring.

119. (Previously Presented): The computer program of claim 118, wherein step of generating, by the processor, a summary of a drillstring in each hole section of the wellbore comprises:

determining an outer diameter of said DC1, said DC2, said HW, and said DP of said drillstring;

determining a weight of said DC1, said DC2, and said HW of said drillstring;

determining a length of said DC1, said DC2, said HW, and said DP of said drillstring; and

determining a tensile risk of said drillstring.

120. (Currently Amended): The computer program of claim 119, wherein the step of determining an outer diameter of said DC1, said DC2, said HW, and said DP of said drillstring comprises:

determining an outer diameter of said DC1 ($DC1_{OD}$) from a table using a hole size;

determining an outer diameter of said DC2 ($DC2_{OD}$) by using a stiffness ratio (SR), where:

$SR = Z_{BIG}/Z_{SMALL}$, and where

$Z = ([[\theta]]\ \underline{\Pi}\ /32)\ ((OD^4 - ID^4)\ /\ OD)$,

$SR < 3.5$, and

$DC2_{OD} <= DC1_{OD}\ \&\ DC2_{OD} >= DP_{OD}$, and

~~where 'θ' is used for the wellbore inclination and OD is an outer diameter and ID is an inner diameter;~~

determining an outer diameter of said HW ($HW_{OD}$) by using said stiffness ratio (SR), where

$SR = Z_{BIG}/Z_{SMALL}$,

$Z = ([[\theta]]\ \underline{\Pi}\ /32)\ ((OD^4 - ID^4)\ /\ OD)$,

$SR < 3.5$, and

$HW_{OD} <= DC2_{OD}\ \&\ HW_{OD} >= DP_{OD}$, and where

$DP_{OD} <= HW_{OD}$; and

determining an outer diameter of said DP ($DP_{OD}$) by using a stiffness ratio (SR), where an outer diameter of said DP ($DP_{OD}$) is obtained from a table using the hole size and $DP_{OD} <= DC1_{OD}$.

121. (Previously Presented): The computer program of claim 119, wherein the step of determining a weight of said DC1, said DC2, and said HW of said drillstring comprises:

determining a maximum weight-on-bit (WOB) used in the hole section; and

determining a weight of said DC1, said DC2, and said HW, where 'θ' is used for a wellbore inclination and 'DF' is a design factor, and where,

$$HW_w = \frac{WOB(DF)}{K_b * COS(\theta)}\left(\frac{5+\theta}{100}\right),$$

$$DC1_w + DC2_w = \frac{WOB(DF)}{K_b * COS(\theta)}\left(\frac{95-\theta}{100}\right), \text{ or}$$

$$DC1_w + DC2_w = \frac{WOB(DF)}{K_b * COS(\theta)} - HW_w,$$

$DC1_W = DC1_L * DC1_{WFT}$, and

$DC2_W = (DC1 + DC2) - DC1$.

122. (Previously Presented): The computer program of claim 119, wherein the step of determining a length of said DC1, said DC2, said HW, and said DP of said drillstring comprises:

determining a length of said DC1, said DC2, said HW, and said DP, where,

$DC1 - DC1_L = 90$ Feet = 1 Stand = 3 Joint,

$DC2 - DC2_L = DC2_W / DC2_{WFT}$,

$HW - HW_L = HW_W / HW_{WFT}$, and

$DP - DP_L =$ (Bit Section Length) – $(DC1_L - DC2_L - HW_L)$.

123. (Previously Presented): The computer program of claim 119, wherein said at least a portion of said summary of said drillstring, which corresponds to said each hole section in said each row of said output display, comprises:

an outer diameter (OD) of the first drill collar (DC1) of said drillstring.

124. (Previously Presented): The computer program of claim 123, wherein said at least a portion of said summary of said drillstring, which corresponds to said each hole section in said each row of said output display, further comprises:

an outer diameter (OD) of the second drill collar (DC2) of said drillstring.

125. (Previously Presented): The computer program of claim 124, wherein said at least a portion of said summary of said drillstring, which corresponds to said each hole section in said each row of said output display, further comprises:
an outer diameter (OD) of a heavy weight (HW) of said drillstring.

126. (Previously Presented): The computer program of claim 125, wherein said at least a portion of said summary of said drillstring, which corresponds to said each hole section in said each row of said output display, further comprises:
an outer diameter (OD) of a drill pipe (DP) of said drillstring.

127. (Previously Presented): The computer program of claim 126, wherein said at least a portion of said summary of said drillstring, which corresponds to said each hole section in said each row of said output display, further comprises:
a maximum weight of a weight-on-bit (WOB) in each hole section of said drill string.

128. (Previously Presented): The computer program of claim 127, wherein said at least a portion of said summary of said drillstring, which corresponds to said each hole section in said each row of said output display, further comprises:
a weight of a first drill collar (DC1) of said drillstring.

129. (Previously Presented): The computer program of claim 128, wherein said at least a portion of said summary of said drillstring, which corresponds to said each hole section in said each row of said output display, further comprises:
a weight of a second drill collar (DC2) of said drillstring.

130. (Previously Presented): The computer program of claim 129, wherein said at least a portion of said summary of said drillstring, which corresponds to said each hole section in said each row of said output display, further comprises:
a weight of a heavy weight (HW) of said drillstring.

131. (Previously Presented): The computer program of claim 130, wherein said at least a portion of said summary of said drillstring, which corresponds to said each hole section in said each row of said output display, further comprises:
a length of a first drill collar (DC1) of said drillstring.

132. (Previously Presented): The computer program of claim 131, wherein said at least a portion of said summary of said drillstring, which corresponds to said each hole section in said each row of said output display, further comprises:
a length of a second drill collar (DC2) of said drillstring.

133. (Previously Presented): The computer program of claim 132, wherein said at least a portion of said summary of said drillstring, which corresponds to said each hole section in said each row of said output display, further comprises:
a length of a heavy weight (HW) of said drillstring.

134. (Previously Presented): The computer program of claim 133, wherein said at least a portion of said summary of said drillstring, which corresponds to said each hole section in said each row of said output display, further comprises:
a length of a drill pipe (DP) of said drillstring.

135. (Previously Presented): The computer program of claim 134, wherein said at least a portion of said summary of said drillstring, which corresponds to said each hole section in said each row of said output display, further comprises:
a tensile risk of said drillstring.

136. (Previously Presented) The computer program of claim 135, wherein said at least a portion of said summary of said drillstring, which corresponds to said each hole section in said each row of said output display, further comprises:

a cost figure associated with said drillstring.

137. (Previously Presented): The computer program of claim 136, wherein said at least a portion of said summary of said drillstring, which corresponds to said each hole section in said each row of said output display, further comprises:
a kick tolerance associated with said drillstring.

138. (Previously Presented): A program storage device readable by a machine tangibly embodying a set of instructions executable by the machine to perform method steps, which are practiced by a computer system, of well planning in a well planning system in response to input data including wellbore geometry and wellbore trajectory requirements, the computer system including a processor that is responsive to the input data, a recorder or display device, and a memory, the memory storing a software, the wellbore including a plurality of hole sections, the method steps comprising:
executing, by the processor, the software stored in the memory of the computer system in response to said input data and, in response to the executing step, generating, by the processor, a summary of a drillstring in each hole section of the wellbore, the summary of said drillstring providing a drillstring design for the wellbore geometry in each hole section of the wellbore; and
recording or displaying, by the recorder or display device, at least a portion of said summary of said drillstring in said each hole section of said wellbore on an output display of said recorder or display device, wherein said output display of said recorder or display device includes,
said plurality of hole sections, and
for each hole section on said output display, said at least a portion of said summary of said drillstring associated with said each hole section on said output display.

139. (Currently Amended): A computer system adapted for well planning in a well planning system in response to input data including wellbore geometry and wellbore trajectory requirements, the wellbore including a plurality of hole sections, comprising:

a processor responsive to the input data[[,]];

a recorder or display device[[,]]; and

a memory storing a software[[,]];

the processor executing the software stored in the memory of the computer system in response to said input data and, in response thereto, the processor generating a summary of a drillstring in each hole section of the wellbore, the summary of said drillstring providing a drillstring design for the wellbore geometry in each hole section of the wellbore; and

the recorder or display device recording or displaying at least a portion of said summary of said drillstring in said each hole section of said wellbore on an output display, wherein said output display being recorded or displayed on said recorder or display device includes,

said plurality of hole sections, and

for each hole section on said output display, said at least a portion of said summary of said drillstring associated with said each hole section on said output display.

140. (Previously Presented): The computer system of claim 139, wherein: the plurality of hole sections are arranged along a plurality of rows on said output display, and said at least a portion of said summary of said drillstring associated with said each hole section are arranged along a plurality of columns for each row of said output display.

141. (Currently Amended): A method, practiced by a computer system, of well planning in a well planning system including automatically generating a required number of drillstrings to support a set of weight requirements of each drill bit, a set of directional requirements of a wellbore trajectory, and a set of mechanical requirements of a rig and drill pipe in

response to input data including wellbore geometry and wellbore trajectory requirements, the computer system including a processor, a recorder or display device, and a memory that stores a software, the wellbore including one or more hole sections, comprising:

executing, by the processor, the software stored in the memory in response to said input data, and, responsive thereto, generating, by the processor, a summary of a drillstring for each hole section of a wellbore, the summary providing a drillstring design of the wellbore geometry for each hole section of the wellbore, wherein the step of generating, by the processor, a summary of the drillstring for each hole section of the wellbore includes[[,]]:

generating an outer diameter of one or more drill collars (DC), an outer diameter of a heavy weight (HW), and an outer diameter of a drill pipe (DP)[[,]];

generating a weight of the drill collars (DC) and a weight of the heavy weight (HW)[[,]]; and

generating a length of the drill collars (DC), a length of the heavy weight (HW), and a length of the drill pipe (DP); and

recording or displaying, by the recorder or display device, at least a portion of said summary of said drillstring for said each hole section of said wellbore on an output display of said recorder or display device, wherein said output display includes,

a plurality of hole sections, and

for each hole section of said plurality of hole sections, a summary of the drillstring for said each hole section, the summary of the drillstring for said each hole section including an outer diameter of one or more drill collars (DC), an outer diameter of a heavy weight (HW), and an outer diameter of a drill pipe (DP), a weight of the drill collars (DC), a weight of the heavy weight (HW), a length of the drill collars (DC), a length of the heavy weight (HW), and a length of the drill pipe (DP).

142. (Previously Presented): The method of claim 141, wherein the output display includes a plurality of rows and a plurality of columns, the plurality of hole sections being arranged along said plurality of rows of said output display, one hole section being reserved for each row, and for each hole section in each row of said output display, the summary of the drillstring for said each hole section being arranged along said plurality of columns of said output display.

143. (Previously Presented): The method of claim 142, wherein the one or more drill collars (DC) include a first drill collar (DC1) and a second drill collar (DC2), and wherein the step of generating an outer diameter of one or more drill collars (DC), an outer diameter of a heavy weight (HW), and an outer diameter of a drill pipe (DP) comprises:
determining an outer diameter of said DC1 ($DC1_{OD}$) from a table using a hole size; and
determining an outer diameter of said DP ($DP_{OD}$) by using a stiffness ratio (SR), where an outer diameter of said DP ($DP_{OD}$) is obtained from a table using the hole size and $DP_{OD} <= DC1_{OD}$.

144. (Currently Amended): The method of claim 143, wherein the step of generating an outer diameter of one or more drill collars (DC), an outer diameter of a heavy weight (HW), and an outer diameter of a drill pipe (DP) further comprises:
determining an outer diameter of said DC2 ($DC2_{OD}$) by using said stiffness ratio (SR), where:
$SR = Z_{BIG}/Z_{SMALL}$, and where
$Z = ([[\theta]] \underline{\Pi} /32) ((OD^4 - ID^4) / OD)$,
$SR < 3.5$, and
$DC2_{OD} <= DC1_{OD}$ & $DC2_{OD} >= DP_{OD}$, and
~~where 'θ' is used for the wellbore inclination and OD is an outer diameter and ID is an inner diameter.~~

145. (Currently Amended): The method of claim 144, wherein the step of generating an outer diameter of one or more drill collars (DC), an outer diameter of a heavy weight (HW), and an outer diameter of a drill pipe (DP) further comprises:

determining an outer diameter of said HW ($HW_{OD}$) by using said stiffness ratio (SR), where:

$SR = Z_{BIG}/Z_{SMALL}$,

$Z = ([[\theta]]\ \underline{\Pi}\ /32)\ ((OD^4 - ID^4) / OD)$,

$SR < 3.5$, and

$HW_{OD} <= DC2_{OD}\ \&\ HW_{OD} >= DP_{OD}$, and where

$DP_{OD} <= HW_{OD}$.

146. (Previously Presented): The method of claim 142, wherein the drill collars include said (DC1) and said (DC2), and wherein the step of generating a weight of the drill collars (DC) and a weight of the heavy weight (HW) of said drillstring comprises:

determining a maximum weight-on-bit (WOB) used in the hole section; and

determining a weight of said DC1, said DC2, and said HW, where 'θ' is used for a wellbore inclination and 'DF' is a design factor, and where,

$$HW_w = \frac{WOB(DF)}{K_b * COS(\theta)}\left(\frac{5+\theta}{100}\right),$$

$$DC1_w + DC2_w = \frac{WOB(DF)}{K_b * COS(\theta)}\left(\frac{95-\theta}{100}\right), \text{ or}$$

$$DC1_w + DC2_w = \frac{WOB(DF)}{K_b * COS(\theta)} - HW_w,$$

$DC1_W = DC1_L * DC1_{WFT}$, and

$DC2_W = (DC1 + DC2) - DC1$.

147. (Previously Presented): The method of claim 142, wherein the drill collars include said (DC1) and said (DC2), and wherein the step of generating a length of the drill collars (DC), a length of the heavy weight (HW), and a length of the drill pipe (DP) comprises:

determining a length of said DC1, said DC2, said HW, and said DP, where,

$DC1 - DC1_L = 90$ Feet = 1 Stand = 3 Joint,

$DC2 - DC2_L = DC2_W / DC2_{WFT,}$

$HW - HW_L = HW_W / HW_{WFT,\ and}$

$DP - DP_L =$ (Bit Section Length) – $(DC1_L - DC2_L - HW_L)$.

148. (Currently Amended): A program storage device readable by a processor tangibly embodying a set of instructions executable by the processor to perform method steps, which are practiced by a computer system, of well planning in a well planning system including automatically generating a required number of drillstrings to support a set of weight requirements of each drill bit, a set of directional requirements of a wellbore trajectory, and a set of mechanical requirements of a rig and drill pipe in response to input data including wellbore geometry and wellbore trajectory requirements, the computer system including the processor, a recorder or display device, and the program storage device that stores the instructions, the wellbore including one or more hole sections, the method steps comprising:

executing, by the processor, the instructions stored in the program storage device in response to said input data, and, responsive thereto, generating, by the processor, a summary of a drillstring for each hole section of a wellbore, the summary providing a drillstring design of the wellbore geometry for each hole section of the wellbore, wherein the step of generating, by the processor, a summary of the drillstring for each hole section of the wellbore includes[[,]]:

generating an outer diameter of one or more drill collars (DC), an outer diameter of a heavy weight (HW), and an outer diameter of a drill pipe (DP)[[,]];

generating a weight of the drill collars (DC) and a weight of the heavy weight (HW)[[,]]; and

generating a length of the drill collars (DC), a length of the heavy weight (HW), and a length of the drill pipe (DP); and

recording or displaying, by the recorder or display device, at least a portion of said summary of said drillstring for said each hole section of said wellbore on an output display of said recorder or display device, wherein said output display includes,

a plurality of hole sections, and

for each hole section of said plurality of hole sections, a summary of the drillstring for said each hole section, the summary of the drillstring for said each hole section including an outer diameter of one or more drill collars (DC), an outer diameter of a heavy weight (HW), and an outer diameter of a drill pipe (DP), a weight of the drill collars (DC), a weight of the heavy weight (HW), a length of the drill collars (DC), a length of the heavy weight (HW), and a length of the drill pipe (DP).

149. (Previously Presented): The program storage device of claim 148, wherein the output display includes a plurality of rows and a plurality of columns, the plurality of hole sections being arranged along said plurality of rows of said output display, one hole section being reserved for each row, and for each hole section in each row of said output display, the summary of the drillstring for said each hole section being arranged along said plurality of columns of said output display.

150. (Previously Presented): The program storage device of claim 149, wherein the one or more drill collars (DC) include a first drill collar (DC1) and a second drill collar (DC2), and wherein the step of generating an outer diameter of one or more drill collars (DC), an outer diameter of a heavy weight (HW), and an outer diameter of a drill pipe (DP) comprises:

determining an outer diameter of said DC1 ($DC1_{OD}$) from a table using a hole size; and

determining an outer diameter of said DP ($DP_{OD}$) by using a stiffness ratio (SR), where an outer diameter of said DP ($DP_{OD}$) is obtained from a table using the hole size and $DP_{OD} <= DC1_{OD}$.

151. (Currently Amended): The program storage device of claim 150, wherein the step of generating an outer diameter of one or more drill collars (DC), an outer diameter of a heavy weight (HW), and an outer diameter of a drill pipe (DP) further comprises:
determining an outer diameter of said DC2 ($DC2_{OD}$) by using said stiffness ratio (SR),
where:
$SR = Z_{BIG}/Z_{SMALL}$, and where
$Z = ([[\theta]]\ \underline{\Pi} /32) ((OD^4 - ID^4) / OD)$,
$SR < 3.5$, and
$DC2_{OD} <= DC1_{OD}$ & $DC2_{OD} >= DP_{OD}$~~, and~~
~~where 'θ' is used for the wellbore inclination and OD is an outer diameter and ID is an inner diameter~~.

152. (Currently Amended) The program storage device of claim 151, wherein the step of generating an outer diameter of one or more drill collars (DC), an outer diameter of a heavy weight (HW), and an outer diameter of a drill pipe (DP) further comprises:
determining an outer diameter of said HW ($HW_{OD}$) by using said stiffness ratio (SR),
where:
$SR = Z_{BIG}/Z_{SMALL}$,
$Z = ([[\theta]]\ \underline{\Pi} /32) ((OD^4 - ID^4) / OD)$,
$SR < 3.5$, and
$HW_{OD} <= DC2_{OD}$ & $HW_{OD} >= DP_{OD}$, and where
$DP_{OD} <= HW_{OD}$.

153. (Previously Presented): The program storage device of claim 149, wherein the drill collars include said (DC1) and said (DC2), and wherein the step of generating a weight of the drill collars (DC) and a weight of the heavy weight (HW) of said drillstring comprises:
determining a maximum weight-on-bit (WOB) used in the hole section; and

determining a weight of said DC1, said DC2, and said HW, where 'θ' is used for a wellbore inclination and 'DF' is a design factor, and where,

$$HW_w = \frac{WOB(DF)}{K_b * COS(\theta)}\left(\frac{5+\theta}{100}\right),$$

$$DC1_w + DC2_w = \frac{WOB(DF)}{K_b * COS(\theta)}\left(\frac{95-\theta}{100}\right), \text{ or}$$

$$DC1_w + DC2_w = \frac{WOB(DF)}{K_b * COS(\theta)} - HW_w,$$

$DC1_W = DC1_L * DC1_{WFT}$, and

$DC2_W = (DC1 + DC2) - DC1$.

154. (Previously Presented): The program storage device of claim 149, wherein the drill collars include said (DC1) and said (DC2), and wherein the step of generating a length of the drill collars (DC), a length of the heavy weight (HW), and a length of the drill pipe (DP) comprises:

determining a length of said DC1, said DC2, said HW, and said DP, where,

$DC1 - DC1_L = 90$ Feet = 1 Stand = 3 Joint,

$DC2 - DC2_L = DC2_W / DC2_{WFT}$,

$HW - HW_L = HW_W / HW_{WFT}$, and

$DP - DP_L = (\text{Bit Section Length}) - (DC1_L - DC2_L - HW_L)$.